

IN THE CLAIMS:

1. (Currently Amended) An image display apparatus comprising:

a light source for supplying illumination light;

a reflection type display device which reflects the illumination light and modulates the illumination light into image light;

an illumination optical system for guiding the illumination light to the reflection type display device, wherein the illumination optical system comprises:

a) a first optical member for directing the illumination light toward the reflection type display device; and

b) a second optical member including:

i) a part generating a secondary light source with the illumination light emitted from said light source, in which the light from the part emerges toward said first optical member; and

ii) a reflecting surface which guides illumination light which is not incident directly on the part to the part; and

~~a projection~~ an eyepiece optical system for guiding the image light to an observer.

2. (Previously Presented) An image display apparatus according to claim 1,

wherein said first optical member comprises a first surface on which the illumination light from said part is incident, a second surface which totally reflects the light

incident from the first surface, and a third surface from which the light totally reflected by the second surface emerges toward said reflection type display device; and

the image light modulated by said reflection type display device again enters into said first optical member from the third surface, and emerges toward said projection optical system from the second surface.

3. (Previously Presented) An image display apparatus according to claim 1, wherein said part is a diffusing surface.

4. (Previously Presented) An image display apparatus according to claim 1, wherein said part is a reflecting and diffusing surface.

5. (Currently Amended) An image display apparatus according to claim 1, wherein ~~the secondary light source generating~~ said part is a microlens group.

6. (Currently Amended) An image display apparatus according to claim 1, further comprising a directional element that is arranged between ~~the~~ said first optical member and ~~the~~ said second optical member, and enhances directivity of illumination light that emerges from ~~the~~ said second optical member and enters into ~~the~~ said first optical member.

7. (Previously Presented) An image display apparatus according to claim 1, further comprising:

a reflecting-liquid-crystal display device as said reflection type display device; and

a polarizing member capable of polarizing the illumination light and analyzing the image light,

wherein said polarizing member is arranged in a position where a condition, $I/I_0 < 0.1$ is satisfied with letting optical intensity of outdoor daylight entering from an observer side to said projection optical system on said reflective-liquid-crystal display device be I_0 and letting optical intensity on said polarizing member be I .

8. (Previously Presented) An image display apparatus according to claim 1, further comprising:

a reflective-liquid-crystal display device as said reflection type display device;

a first polarizing member which converts illumination light emerged from said second optical member into S-polarized light to be incident on said first optical member; and

a second polarizing member for analyzing the image light modulated by said reflective-liquid-crystal display device into P-polarized light.

9. (Previously Presented) An image display apparatus according to claim 1,

wherein said projection optical system comprises an optical element having a plurality of optical surfaces; and

at least one among the plurality of said optical surfaces is a reflecting surface and at least one is a rotationally asymmetrical surface.

10. (Currently Amended) An image display apparatus comprising:
- a light source for supplying illumination light;
 - a reflection type display device which reflects the illumination light and modulates the illumination light into image light; and
 - an illumination optical system for guiding the illumination light to said reflection type display device, wherein the illumination optical system comprises:
 - a first optical member for directing the illumination light toward said reflection type display device; and
 - a second optical member including a first reflecting surface which deflects a principal optical path of the illumination light from said light source and emitting the illumination light, reflected by said first reflecting surface, toward said first optical member, and a second reflecting surface which guides illumination light which is not incident directly on said first reflecting surface; and
 - ~~a projection~~ an eyepiece optical system for guiding the image light to an observer.

11. (Previously Presented) An image display apparatus according to claim 10,
- wherein said first optical member comprises a first surface on which the illumination light is incident, a second surface which totally reflects the light incident from the

first surface, and a third surface from which the light totally reflected by the second surface emerges toward said reflection type display device; and

the image light modulated by said reflection type display device again enters into said first optical member from the third surface, and emerges toward said projection optical system from the second surface.

12. (Previously Presented) An image display apparatus according to claim 10,

wherein the reflecting surface of said second optical member generates a secondary light source with the illumination light emitted from said light source.

13. (Previously Presented) An image display apparatus according to claim 12,

wherein said second optical member guides illumination light which is not incident directly on the reflecting surface to the reflecting surface.

14. (Currently Amended) An image display apparatus according to claim 10, further comprising a directional element that is disposed between the said first optical member and the said second optical member, and enhances directivity of illumination light emerged from the said second optical member and entering into the said first optical member.

15. (Previously Presented) An image display apparatus according to claim 10, further comprising:

a reflective-liquid-crystal display device as said reflection type display device; and

a polarizing member capable of polarizing the illumination light and analyzing the image light,

wherein said polarizing member is arranged in a position where a condition, $I/I_0 < 0.1$ is satisfied with letting optical intensity of outdoor daylight entering from an observer side to said projection optical system on said reflective-liquid-crystal display device be I_0 and letting optical intensity on said polarizing member be I .

16. (Previously Presented) An image display apparatus according to claim 10, further comprising:

a reflective-liquid-crystal display device as said reflection type display device;

a first polarizing member which converts the illumination light emerged from said second optical member into S-polarized light to be incident on said first optical member; and

a second polarizing member for analyzing the image light modulated by said reflective-liquid-crystal display device into P-polarized light.

17. (Previously Presented) An image display apparatus according to claim 10,

wherein said projection optical system comprises an optical element having a plurality of optical surfaces, and

at least one among the plurality of said optical surfaces is a reflecting surface and at least one is a rotationally asymmetrical surface.

18. (Previously Presented) An image display apparatus comprising:
the image display apparatus according to any one of claims 1 or 10; and
an image information output apparatus for supplying image information to said image display apparatus.

19. (Currently Amended) An optical system comprising:
an illumination optical system for guiding illumination light to a reflection type display device,
wherein said illumination optical system comprises:
a) a first optical member for directing the illumination light toward the reflection type display device; and
b) a second optical member including:
i) a part which generates a secondary light source with the illumination light emitted from a light source, in which the light from said part emerges toward said first optical member; and
ii) a reflecting surface which guides illumination light which is not incident directly on the part to the part; and
~~a projection~~ an eyepiece optical system for guiding the image light, reflected by said reflection type display device, to an observer.

20. (Currently Amended) An optical system comprising:

an illumination optical system for guiding illumination light to a reflection type display device,

wherein said illumination optical system comprises:

a first optical member for directing the illumination light toward the reflection type display device; and

a second optical member that includes a first reflecting surface which deflects a principal optical path of illumination light from a light source and emits the illumination light, reflected by the first reflecting surface, toward said first optical member, and a second reflecting surface which guides illumination light which is not incident directly on the first reflecting surface; and

~~a projection~~ an eyepiece optical system for guiding image light, reflected by the reflection type display device, to an observer.